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DATE: Monday, November 14, 2005

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☐	L2	fourier and l1	5
☐	L1	(fiber adj optic$) same sensor same combinatorial	16

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Search Results -

Terms	Documents
schwabacher-alan$.in.	3

Database:
US Pre-Grant Publication Full-Text Database
US Patents Full-Text Database
US OCR Full-Text Database
EPO Abstracts Database
JPO Abstracts Database
Derwent World Patents Index
IBM Technical Disclosure Bulletins

Search: L2

Refine Search

Recall Text Clear Interrupt

Search History

DATE: Monday, November 14, 2005 Printable Copy Create Case

Set Name side by side	Query	Hit Count	Set Name result set
DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=OR			
L2	schwabacher-alan$.in.	3	L2
L1	schwabacher.in.	45	L1

END OF SEARCH HISTORY

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E2           1     SCHWABACHER ALAN WOLFGANG/AU
E3           0 --> SCHWABACHER ALAN?/AU
E4           1     SCHWABACHER E N/AU
E5          16     SCHWABACHER G/AU
E6          22     SCHWABACHER H/AU
E7           4     SCHWABACHER HERTA/AU
E8           1     SCHWABACHER I J/AU
E9           1     SCHWABACHER K L/AU
E10          5     SCHWABACHER S/AU
E11          1     SCHWABACHER S M/AU
E12          7     SCHWABACHER W B/AU

=> e1 or 32
L1     1338153 "SCHWABACHER ALAN W"/AU OR 32

=> e1 or e2
L2          66 "SCHWABACHER ALAN W"/AU OR "SCHWABACHER ALAN WOLFGANG"/AU

=> optical and combinatorial and l2
L3          15 OPTICAL AND COMBINATORIAL AND L2

=> dup rem l3
PROCESSING COMPLETED FOR L3
L4           15 DUP REM L3 (0 DUPLICATES REMOVED)

=> t ti l4 `-`5
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ABS --------- GI and AB
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CAN --------- List of CA abstract numbers without answer numbers
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MAX --------- ALL, plus Patent FAM, RE
PATS -------- PI, SO
SAM --------- CC, SX, TI, ST, IT
SCAN -------- CC, SX, TI, ST, IT (random display, no answer numbers;
              SCAN must be entered on the same line as the DISPLAY,
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HITIND ------ IC, ICA, ICI, NCL, CC and index field (ST and IT)
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HITRN ------- HIT RN and its text modification
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              its structure diagram
HITSEQ ------ HIT RN, its text modification, its CA index name, its
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ALL --------- BIB, AB, IND, RE
APPS -------- AI, PRAI
BIB --------- AN, plus Bibliographic Data and PI table (default)
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CBIB -------- AN, plus Compressed Bibliographic Data
DALL -------- ALL, delimited (end of each field identified)
DMAX -------- MAX, delimited for post-processing
FAM --------- AN, PI and PRAI in table, plus Patent Family data
FBIB -------- AN, BIB, plus Patent FAM
IND --------- Indexing data
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MAX --------- ALL, plus Patent FAM, RE
PATS -------- PI, SO
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SCAN -------- CC, SX, TI, ST, IT (random display, no answer numbers;
SCAN must be entered on the same line as the DISPLAY,
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STD --------- BIB, IPC, and NCL

IABS -------- ABS, indented with text labels
IALL -------- ALL, indented with text labels
IBIB -------- BIB, indented with text labels
IMAX -------- MAX, indented with text labels
ISTD -------- STD, indented with text labels

OBIB -------- AN, plus Bibliographic Data (original)
OIBIB ------- OBIB, indented with text labels

SBIB -------- BIB, no citations
SIBIB ------- IBIB, no citations

HIT --------- Fields containing hit terms
HITIND ------ IC, ICA, ICI, NCL, CC and index field (ST and IT)
containing hit terms
HITRN ------- HIT RN and its text modification
HITSTR ------ HIT RN, its text modification, its CA index name, and
its structure diagram
HITSEQ ------ HIT RN, its text modification, its CA index name, its
structure diagram, plus NTE and SEQ fields
FHITSTR ----- First HIT RN, its text modification, its CA index name, and
its structure diagram
FHITSEQ ----- First HIT RN, its text modification, its CA index name, its
structure diagram, plus NTE and SEQ fields
KWIC -------- Hit term plus 20 words on either side
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=> t ti l4 1-15

L4 ANSWER 1 OF 15 CAPLUS COPYRIGHT 2005 ACS on STN
TI Apparatus and methods for **optical** time-of-flight discrimination in **combinatorial** library analysis

L4 ANSWER 2 OF 15 CAPLUS COPYRIGHT 2005 ACS on STN
TI Synthesis and characterization of a pH-reporting cladding for

optical fibers

L4 ANSWER 3 OF 15 CAPLUS COPYRIGHT 2005 ACS on STN
TI Fourier transform analysis for periodic **combinatorial** arrays

L4 ANSWER 4 OF 15 CAPLUS COPYRIGHT 2005 ACS on STN
TI Fiber-optic sensor technology and **combinatorial** chemistry

L4 ANSWER 5 OF 15 CAPLUS COPYRIGHT 2005 ACS on STN
TI Applications of distributed **optical** fiber sensing: fluorescent assays of linear **combinatorial** arrays

L4 ANSWER 6 OF 15 CAPLUS COPYRIGHT 2005 ACS on STN
TI Linear **combinatorial** synthesis with Fourier transform library analysis

L4 ANSWER 7 OF 15 CAPLUS COPYRIGHT 2005 ACS on STN
TI Intrinsic fiber-optic sensors for spatially resolved **combinatorial** screening

L4 ANSWER 8 OF 15 CAPLUS COPYRIGHT 2005 ACS on STN
TI An **optical** readout scheme providing high spatial resolution for the evaluation of **combinatorial** libraries on **optical** fibers

L4 ANSWER 9 OF 15 CAPLUS COPYRIGHT 2005 ACS on STN
TI One-dimensional arrays on **optical** fibers

L4 ANSWER 10 OF 15 CAPLUS COPYRIGHT 2005 ACS on STN
TI Fluorescent fiber-optic sensor arrays probed utilizing evanescent fiber-fiber coupling

L4 ANSWER 11 OF 15 CAPLUS COPYRIGHT 2005 ACS on STN
TI A Readout Scheme Providing High Spatial Resolution for Distributed Fluorescent Sensors on **Optical** Fibers

L4 ANSWER 12 OF 15 CAPLUS COPYRIGHT 2005 ACS on STN
TI Preparation of a solid support for **combinatorial** fluorescent chemosensor arrays using **optical** fibers

L4 ANSWER 13 OF 15 CAPLUS COPYRIGHT 2005 ACS on STN
TI One-dimensional spatial encoding: split/mix synthetic parallelism with tag-free identification and assays at the speed of light

L4 ANSWER 14 OF 15 CAPLUS COPYRIGHT 2005 ACS on STN
TI Spatial resolution increase of quasi-distributed fluorescent sensor arrays on **optical** fibers

L4 ANSWER 15 OF 15 CAPLUS COPYRIGHT 2005 ACS on STN
TI **Optical** response of cladding embedded fluorophores in SPOCC-resin-clad **optical**-fiber sensor arrays to environmental conditions: Toward the **optical** evaluation of **combinatorial** libraries on fibers

=> d ibib abs l4 1-15

L4 ANSWER 1 OF 15 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2005:559118 CAPLUS
DOCUMENT NUMBER: 143:241010
TITLE: Apparatus and methods for **optical** time-of-flight discrimination in **combinatorial**

library analysis
AUTHOR(S): Henning, Paul E.; Benko, Anna; **Schwabacher, Alan W.**; Geissinger, Peter; Olsson, Robert J.
CORPORATE SOURCE: Department of Chemistry and Biochemistry, University of Wisconsin-Milwaukee, Milwaukee, WI, 53211, USA
SOURCE: Review of Scientific Instruments (2005), 76(6), 062220/1-062220/8
CODEN: RSINAK; ISSN: 0034-6748
PUBLISHER: American Institute of Physics
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The authors' recently developed method for **combinatorial** synthesis leads efficiently to linear arrays, where the location of a compound in the array encodes its complete synthetic history. Such arrays prepared using an **optical** fiber as a linear support can be probed with a fiber-guided pulse, allowing evanescent interaction with fluorescent probe mols. at the core-cladding interface. **Optical** time-of-flight distinction among output signals of fluorescent regions distributed along the fiber is carried out, allowing for the measurement of the location of the emitting fluorescent probes. A unique two-fiber, double-evanescent process overcomes limitations in spatial discrimination, due to fluorescence decay times in comparison to the speed of light. Study of an array of 102 fluorescent regions is described, with discussion of its features and limitations.
REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 2 OF 15 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2005:192212 CAPLUS
TITLE: Synthesis and characterization of a pH-reporting cladding for **optical** fibers
AUTHOR(S): Benko, Anna; Geissinger, Peter; **Schwabacher, Alan W.**
CORPORATE SOURCE: Department of Chemistry, University of Wisconsin-Milwaukee, Milwaukee, WI, 53211, USA
SOURCE: Abstracts of Papers, 229th ACS National Meeting, San Diego, CA, United States, March 13-17, 2005 (2005), ORGN-188. American Chemical Society: Washington, D. C.
CODEN: 69GQMP
DOCUMENT TYPE: Conference; Meeting Abstract
LANGUAGE: English
AB **Optical** fibers provide advantageous supports for arrays of fluorescent chemosensor mols. We have introduced an efficient scheme for **combinatorial** synthesis on a linear support, as well as a new approach to time-resolved discrimination among fluorescent signals from sensors distributed along an **optical** fiber. In order to combine these technologies for practical use, we need an appropriate gel matrix to provide support for synthesis and assays of the chemosenors, and to act as a cladding for the **optical** fibers. We chose the Meldal SPOCC resin for its close to ideal properties, and modified the synthesis to meet our needs. We describe the preparation of polymeric films that have appropriate stability, **optical** transparency and refractive index, compatibility with organic synthetic reagents and with aqueous environments. We have covalently modified these films with pH-sensitive fluorophores, producing fluorosensor films. Initial results demonstrating favorable properties and potential use of these films will be described.

L4 ANSWER 3 OF 15 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2005:80012 CAPLUS
TITLE: Fourier transform analysis for periodic **combinatorial** arrays

AUTHOR(S): **Schwabacher, Alan W.**; Geissinger, Peter
CORPORATE SOURCE: Department of Chemistry, University of Wisconsin-Milwaukee, Milwaukee, WI, 53211, USA
SOURCE: Measurement Science and Technology (2005), 16(1), 144-152
CODEN: MSTCEP; ISSN: 0957-0233
PUBLISHER: Institute of Physics Publishing
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Earlier we introduced a **combinatorial** synthetic method that employs one-dimensional supports ranging from cotton threads to **optical** fibers. This method affords parallel synthesis and availability of the complete library history ideally yielding identification of all library members. Moreover, the synthesized compound library will be arrayed periodically on the linear support, leading to assay data that also reflect this periodicity. This fact invites an anal. using the Fourier transform. Here we demonstrate how this approach presents n-dimensional data in a comprehensible manner and facilitates the identification of trends within the library. Carrying out an inverse Fourier transform on subsets of the data allows for the assignment of fitness profiles for each reactant and combination of reactants in the library. The tools should assist in drawing conclusions based on the diversity of library response as opposed to individual library members.

REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 4 OF 15 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:293017 CAPLUS
DOCUMENT NUMBER: 141:14150
TITLE: Fiber-optic sensor technology and **combinatorial** chemistry
AUTHOR(S): Geissinger, Peter; Prince, Barry J.; Kaltcheva, Nadejda T.; Prince, Maureen J.; **Schwabacher, Alan W.**
CORPORATE SOURCE: Department of Chemistry, University of Wisconsin-Milwaukee, Milwaukee, WI, 53211, USA
SOURCE: Materials Research Society Symposium Proceedings (2004), 804(Combinatorial and Artificial Intelligence Methods in Materials Science II), 275-280
CODEN: MRSPDH; ISSN: 0272-9172
PUBLISHER: Materials Research Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Our recently introduced "Fiber-Optic **Combinatorial** Chemical" technique combines **combinatorial** synthetic methods and **optical** fiber sensor technologies. Our one-dimensional **combinatorial** chemical method allows for synthesis of large compound libraries in a linear format, for example in the cladding of **optical** fibers. Subjecting these libraries to assays that indicate pos. identification of a library member by the binding of a fluorescent group, produces, in effect, an **optical** fiber sensor array. The location of a particular fluorescent region along the **optical** fiber can be determined through the **optical** time-of-flight technique, in which laser pulses propagating through the fiber core probe through their evanescent fields the fluorescent properties of the compds. located in the fiber cladding. It is a virtue of our **combinatorial** synthetic procedure that with the location of a compound on the fiber, its synthetic history is immediately known. We demonstrated that limitations on the spatial resolution of compds. along the fiber due to the excited state lifetimes of the fluorescent marker mols. can be overcome by the use of a second fiber - evanescently coupled to the first one - as an **optical** delay. The existing claddings of

optical fibers severely restrict the range of chemistries for the synthesis of **combinatorial** libraries. Therefore, in order to make our method more generally applicable, the existing fiber cladding has to be replaced by a porous material that can act as solid support for reactions and at the same time preserve the **optical** guiding conditions of the fiber. In this contribution we discuss the requirements for such a replacement cladding and evaluate the general suitability of a functionalized candidate material.

REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 5 OF 15 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2005:649472 CAPLUS
TITLE: Applications of distributed **optical** fiber sensing: fluorescent assays of linear **combinatorial** arrays
AUTHOR(S): Geissinger, Peter; **Schwabacher, Alan W.**
CORPORATE SOURCE: Department of Chemistry, University of Wisconsin-Milwaukee, Milwaukee, WI, 53211, USA
SOURCE: Reviews in Fluorescence (2004), 1, 165-194
CODEN: RFELC7
PUBLISHER: Kluwer Academic/Plenum Publishers
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English

AB A review on fiber-optic sensing basics and stating equations relevant for the interpretation of the exptl. data and the basic ideas of **combinatorial** chemical to show that the use of linear supports can be superior to other methods. It is also shown how the two fields combine to form the "Fiber-Optic **Combinatorial** Chemical" technique. A description of the two-fiber detection scheme and by exptl. data verifying the feasibility of this scheme is presented.

REFERENCE COUNT: 101 THERE ARE 101 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 6 OF 15 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:93968 CAPLUS
DOCUMENT NUMBER: 140:271461
TITLE: Linear **combinatorial** synthesis with Fourier transform library analysis
AUTHOR(S): **Schwabacher, Alan W.**; Johnson, Christopher W.; Geissinger, Peter
CORPORATE SOURCE: Department of Chemistry, University of Wisconsin-Milwaukee, Milwaukee, WI, 53211, USA
SOURCE: Macromolecular Rapid Communications (2004), 25(1), 108-118
CODEN: MRCOE3; ISSN: 1022-1336
PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
DOCUMENT TYPE: Journal
LANGUAGE: English

AB **Combinatorial** synthesis procedures that fit a restrictively defined fully parallel criterion tend to be extremely efficient methods of synthesis. Linear library organization allows such syntheses, without loss of synthetic history information, with an example of a peptide library. Fluorescence measurements of several types are used to measure activities. A novel Fourier Transform approach to library data anal. allows robust evaluation of trends. The use of the cladding of **optical** fibers as linear supports for **combinatorial** libraries significantly extends the potential applications of the technique, allowing for spatially resolved **optical** evaluation of library activity using laser pulses propagating through the fiber core. Moreover, by using different fiber cladding materials, the range of

chemistries amenable to one-dimensional **combinatorial** synthesis is significantly increased. The procedure is particularly applicable to the fabrication and evaluation of real-time sensor arrays.
REFERENCE COUNT: 56 THERE ARE 56 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 7 OF 15 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:509627 CAPLUS
DOCUMENT NUMBER: 141:250366
TITLE: Intrinsic fiber-optic sensors for spatially resolved **combinatorial** screening
AUTHOR(S): Geissinger, Peter; **Schwabacher, Alan W.**
CORPORATE SOURCE: Department of Chemistry, University of Wisconsin-Milwaukee, Milwaukee, WI, 53211, USA
SOURCE: High-Throughput Analysis (2003), 317-345. Editor(s): Potyrailo, Radislav A.; Amis, Eric J. Kluwer Academic/Plenum Publishers: New York, N. Y. CODEN: 69FOSK; ISBN: 0-306-47758-0
DOCUMENT TYPE: Conference; General Review
LANGUAGE: English
AB A review demonstrates a high spatial resolution readout scheme for **combinatorial** libraries built in the cladding of **optical** fibers. Assaying such a library with fluorescent compds. results in an array of fluorescent sensor regions which can be optically evaluated using fiber-optic detection methods. The fluorophores are probed using the evanescent fields of the light pulses propagating in the fiber core.
REFERENCE COUNT: 50 THERE ARE 50 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 8 OF 15 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2002:222570 CAPLUS
DOCUMENT NUMBER: 138:21684
TITLE: An **optical** readout scheme providing high spatial resolution for the evaluation of **combinatorial** libraries on **optical** fibers
AUTHOR(S): Prince, Barry J.; **Schwabacher, Alan W.**; Geissinger, Peter
CORPORATE SOURCE: Department of Chemistry, University of Wisconsin-Milwaukee, USA
SOURCE: JALA (2002), 7(1), 66-73 CODEN: JALLFO
PUBLISHER: JALA
DOCUMENT TYPE: Journal
LANGUAGE: English
AB We have developed a novel method for **combinatorial** chemical that allows for fully parallel synthesis and full library anal. The key feature is the use of linear supports for synthesis, where the position of a compound along the support encodes its synthetic history. Use of an **optical** fiber as the linear support allows for the **optical** evaluation of libraries: the location of an emitting fluorophore can be determined using fluorescent **optical** time domain reflectometry. We have demonstrated that limitations on the spatial resolution imposed by the fluorescence lifetimes are overcome by using a second fiber as an **optical** delay.
REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 9 OF 15 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2001:707583 CAPLUS
TITLE: One-dimensional arrays on **optical** fibers
INVENTOR(S): **Schwabacher, Alan W.**; Geissinger, Peter

PATENT ASSIGNEE(S): Wisys Technology Foundation, Inc., USA
SOURCE: PCT Int. Appl.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001071316	A2	20010927	WO 2001-US7915	20010313
WO 2001071316	A3	20020228		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2404039	AA	20010927	CA 2001-2404039	20010313
EP 1269188	A2	20030102	EP 2001-914800	20010313
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
JP 2004500574	T2	20040108	JP 2001-569254	20010313
PRIORITY APPLN. INFO.:			US 2000-535300 A	20000324
			WO 2001-US7915 W	20010313

AB Linear arrays of chemosensors or chemical compounds are supported by an **optical** fiber that allows one to rapidly assay the entire array using changes in **optical** properties such as fluorescence. The location of the agent along the fiber determines the identity of the agent in these linear arrays. **Combinatorial** libraries may be constructed on the fiber as well as assayed on the **optical** fiber. A system and method of analyzing the entire array of agents on an **optical** fiber using a light source, an **optical** fiber, and a detector are also described. The time delay between the excitation and detection determines the location being assayed along the fiber and therefore the identity of the agent being assayed. The present invention may find uses in the medical, pharmaceutical, environmental, defense, and food industries.

L4 ANSWER 10 OF 15 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2001:688493 CAPLUS
DOCUMENT NUMBER: 135:378432
TITLE: Fluorescent fiber-optic sensor arrays probed utilizing evanescent fiber-fiber coupling
AUTHOR(S): Prince, Barry J.; Kaltcheva, Nadejda T.; **Schwabacher, Alan W.**; Geissinger, Peter
CORPORATE SOURCE: Department of Chemistry, University of Wisconsin-Milwaukee, Milwaukee, WI, 53201-0413, USA
SOURCE: Applied Spectroscopy (2001), 55(8), 1018-1024
CODEN: APSPA4; ISSN: 0003-7028
PUBLISHER: Society for Applied Spectroscopy
DOCUMENT TYPE: Journal
LANGUAGE: English
AB **Optical**-fiber sensors that use fluorescent probes located in the fiber cladding are of great interest for monitoring phys. and chemical properties in their environment. The interrogation of a fluorophore with a short laser pulse propagating through the fiber core allows for the measurement of the location of the fluorophore by measuring the time delay between the exciting pulse and the returning fluorescence pulse. The

spatial resolution of such an array of fluorescent sensors is limited since a min. separation of the fluorophores is required to resolve returning light pulses. For many applications a closer spacing of sensor regions is desirable, particularly for fibers prepared by using recently introduced 1-dimensional **combinatorial** chemical method. This method allows for efficient preparation of large, diverse, and densely packed linear arrays of sensors. By using a 2nd fiber as an **optical** delay line, the min. spacing between adjacent sensor regions can be well-below the fluorescence lifetime limit. Since the coupling between the 2 fibers is evanescent, the attenuation of the excitation pulse is low, making long arrays of sensor regions feasible. Also, the authors identify the conditions that allow for the **optical** readout of long arrays of sensors.

REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 11 OF 15 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2001:44814 CAPLUS
DOCUMENT NUMBER: 134:172388
TITLE: A Readout Scheme Providing High Spatial Resolution for Distributed Fluorescent Sensors on **Optical** Fibers
AUTHOR(S): Prince, Barry J.; **Schwabacher, Alan W.**; Geissinger, Peter
CORPORATE SOURCE: Department of Chemistry, University of Wisconsin-Milwaukee, Milwaukee, WI, 53201-0413, USA
SOURCE: Analytical Chemistry (2001), 73(5), 1007-1015
CODEN: ANCHAM; ISSN: 0003-2700
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB **Optical** fiber sensors using fluorescent probes distributed along the fiber cladding are of great interest for monitoring phys. and chemical properties in their environment. The location of an emitting fluorophore along a fiber can be determined by measuring the time delay between a short, exciting laser pulse propagating in the fiber core and the returning fluorescence pulse. However, fluorescence lifetimes limit the spatial resolution, since a min. separation of the fluorophores is required to resolve returning light pulses. For many applications, a closer spacing of sensor regions is desirable. The authors present a new method for the readout of closely packed fluorescent chemosensors located in the cladding of an **optical** fiber. By using a 2nd fiber as an **optical** delay line, the min. spacing between adjacent sensor regions can be well below the fluorescence lifetime limit. Since the coupling between the two fibers is evanescent, the attenuation of the excitation pulse is low, making long arrays of sensor regions feasible. This is particularly important since the 1-dimensional **combinatorial** chemical method developed by the authors allows for efficient preparation of diverse linear arrays. Detection sensitivities of 10-7 mol/L are demonstrated, with the potential for significant improvement.

REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 12 OF 15 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2001:640889 CAPLUS
TITLE: Preparation of a solid support for **combinatorial** fluorescent chemosensor arrays using **optical** fibers
AUTHOR(S): Prince, Maureen J.; Kaltcheva, Nadejda T.; Prince, Barry J.; Geissinger, Peter; **Schwabacher, Alan W.**
CORPORATE SOURCE: Department of Chemistry, University of

Wisconsin-Milwaukee, Milwaukee, WI, 53211, USA
SOURCE: Abstracts of Papers, 222nd ACS National Meeting, Chicago, IL, United States, August 26-30, 2001 (2001), ORGN-526. American Chemical Society: Washington, D. C.
CODEN: 69BUZP
DOCUMENT TYPE: Conference; Meeting Abstract
LANGUAGE: English
AB We have recently described the advantages of solids supports of linear morphol. for **combinatorial** split/mix type synthetic parallelism with full spatial encoding. Here we present a novel preparation of a versatile solid support for synthesis and assay in forms appropriate to linear spatially encoded **combinatorial** synthesis to directly yield a chemosensor array. Meldal's SPOCC resin is a stable, UV transparent, polyether support compatible with organic and aqueous conditions. We describe convenient and novel preparation methods to control the crosslink d. and functional loading of the resin. We also describe preparation of the polymer as a film, on which localized compds. are directly assayed through use of **optical** fibers. We demonstrate an evanescent fiber-fiber coupling scheme for the probing of fluorescent mols. in a fiber cladding with high spatial resolution

L4 ANSWER 13 OF 15 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2002:692299 CAPLUS
DOCUMENT NUMBER: 138:304473
TITLE: One-dimensional spatial encoding: split/mix synthetic parallelism with tag-free identification and assays at the speed of light
AUTHOR(S): **Schwabacher, Alan W.**; Geissinger, Peter
CORPORATE SOURCE: Department of Chemistry, University of Wisconsin-Milwaukee, Milwaukee, WI, 53211, USA
SOURCE: Peptides: The Wave of the Future, Proceedings of the Second International and the Seventeenth American Peptide Symposium, San Diego, CA, United States, June 9-14, 2001 (2001), 172-173. Editor(s): Lebl, Michal; Houghten, Richard A. American Peptide Society: San Diego, Calif.
CODEN: 69DBAL; ISBN: 0-9715560-0-8
DOCUMENT TYPE: Conference; General Review
LANGUAGE: English
AB A review. The one-dimensional **combinatorial** chemical method developed by the authors allows efficient preparation of diverse linear arrays on fluorescent **optical** fibers as support. The authors present a new method for the readout of closely packed fluorescent chemosensors located in the cladding of an **optical** fiber. By using a second fiber as an **optical** delay line, the min. spacing between adjacent sensor regions can be well below the fluorescence lifetime limit.
REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 14 OF 15 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2001:197214 CAPLUS
TITLE: Spatial resolution increase of quasi-distributed fluorescent sensor arrays on **optical** fibers
AUTHOR(S): Prince, Barry J.; **Schwabacher, Alan W.**; Geissinger, Peter
CORPORATE SOURCE: Department of Chemistry, University of Wisconsin-Milwaukee, Milwaukee, WI, 53201-0413, USA
SOURCE: Abstracts of Papers, 221st ACS National Meeting, San Diego, CA, United States, April 1-5, 2001 (2001) ANYL-128
CODEN: 69FZD4

PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal; Meeting Abstract
LANGUAGE: English
AB Pulsed laser readout of quasi-distributed fiber-optic sensor arrays allows for the determination of the location of a sensing event along the fiber. When using fluorescent sensors, however, the spatial resolution of such arrays is limited by the fluorescence lifetimes. We report here a technique utilizing two **optical** fibers: one to deliver an excitation pulse to the sensor regions, and the other to collect sensor fluorescence and deliver it the detector. The coupling between the fibers is purely evanescent. We demonstrate that this scheme reduces the min. spacing of adjacent sensors by at least two orders of magnitude. Moreover, the parameters of each fiber may be adjusted independently for optimum signals. The sensor regions can be prepared on one fiber and exposed to the exptl. conditions while completely separated from the detection apparatus A sep.
contribution presents a novel **combinatorial** chemical method for the efficient preparation of large linear sensors arrays.

L4 ANSWER 15 OF 15 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2001:636909 CAPLUS
TITLE: **Optical** response of cladding embedded fluorophores in SPOCC-resin-clad **optical** -fiber sensor arrays to environmental conditions: Toward the **optical** evaluation of **combinatorial** libraries on fibers
AUTHOR(S): Kaltcheva, Nadejda T.; Prince, Maureen J.; Prince, Barry J.; **Schwabacher, Alan W.**; Geissinger, Peter
CORPORATE SOURCE: Department of Chemistry, University of Wisconsin-Milwaukee, Milwaukee, WI, 53201-0413, USA
SOURCE: Abstracts of Papers, 222nd ACS National Meeting, Chicago, IL, United States, August 26-30, 2001 (2001), ANYL-111. American Chemical Society: Washington, D. C.
CODEN: 69BUZP
DOCUMENT TYPE: Conference; Meeting Abstract
LANGUAGE: English
AB **Optical** fibers constitute ideal supports for the recently introduced one-dimensional **combinatorial** chemical method. The compds. making up the **combinatorial** library are synthesized at discrete regions along the fiber using either the original fiber cladding or a substance replacing the cladding as hosts for reactants and products. Laser pulses propagating through the fiber core probe through their evanescent fields the fluorescent properties of the library. Spatial resolution beyond the fluorescence-lifetime limit can be achieved using our two-fiber detection scheme. A very promising replacement cladding is the SPOCC resin [J. Rademann et. al. , J. Am. Chemical Society 121, 5459 (1999)], a
(poly)ethyleneglycol based resin linked only by primary ethers. In order to evaluate the suitability of this material as a host for fluorophores and to show that these fluorophores respond to a changing chemical environment (pH, solvent polarity), we have studied discrete arrays of such sensors.

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L3           15 OPTICAL AND COMBINATORIAL AND L2
L4           15 DUP REM L3 (0 DUPLICATES REMOVED)

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